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As of mid-1982, Walter Reed Army Medical Center was the only US Army medical treatment facility with and organized ambulatory surgical program. This study seeks to determine consumer demand for ambulatory surgery at Darnall Army Community Hospital. It analyzes the needs and preferences of that facility's physicians regarding ambulatory surgery, solicits the feelings of select members of the patient population regarding such a service, determines what portion of inpatient surgery can be performed on an outpatient basis, and formulates an initial marketing plan for use as a guide to the development of the ambulatory surgical center at Darnall. Key words:

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DARNALL ARMY COMMUNITY HOSPITAL
FORT HOOD, TEXAS

A Graduate Research Project
Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Administration

by

Major Jack L. McNeil, ANC

August 1982

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I. INTRODUCTION

GENERAL

Ambulatory surgery has recently come to the forefront as a highly touted remedy for some of the high costs of hospital care. The news media has picked up on the theme of excessive costs in health care and the overuse of hospital services. O'Donovan cites a Business Week article which predicted a national cost savings of over six billion dollars a year if ambulatory surgery were implemented at the level of its total potential.¹ He also predicted new pressures for ambulatory surgery as a result of the recently announced policy of Blue Cross and Blue Shield's national headquarters emphasizing increased use of outpatient surgical procedures.² Although ambulatory surgery is not a new concept, the formally organized program has only emerged in the past twelve years with the success of Surgicenter of Phoenix, Arizona and several hospital based programs.³ Many army hospitals have practiced an informal form of ambulatory surgery for many years. The patient receiving same day outpatient surgery is the exception rather than the rule however, and a formal program with adequate personnel to support and educate the patient and his family was not present in the Army Medical Department until 1979 with the initiation of an ambulatory surgical program at Walter Reed Army Medical Center. Interest in ambulatory surgery has increased in the army because of its efficient use of the physicians' time and the need to effectively serve a large patient population with minor and elective surgery. Several army medical facilities

undergoing new construction or expansion are including separate areas for ambulatory surgical programs and several other facilities are attempting to establish a program in existing buildings.⁴

Brief History of Darnall Army Community Hospital

Construction of the present Darnall Army Community Hospital facility was completed in July 1965. The hospital design reflected the trend toward outpatient care and was intended to serve a total patient population of 50,000 which included the 15,00 active duty soldiers on the post. The current eligible patient population has increased to a total of 170,000 with an active duty population of approximately 40,000. The original construction included 285 inpatient beds, 16 outpatient clinics and a 14-chair dental clinic within the approximately 220,000 square foot facility. The currently served patient population equates to a city the size of Amarillo, Texas, which has three large community hospitals, plus a Veterans Administration and Osteopathic Hospital. The inadequacies of the present facility to fully serve the existing patient population is being relieved by a \$48 million dollar expansion and renovation project which will triple the amount of space devoted to outpatient care. The construction project also will increase the number of operating rooms from five to six and the number of Obstetrical delivery suites from two to four. A part of the project is a free-standing ambulatory surgical center adjacent to the surgical clinic. The ambulatory surgical center features two operating suites; a separate waiting room and administrative desk; patient and staff dressing rooms; and

presurgical preparation and postsurgical recovery areas.⁵

Conditions Which Prompted the Study

Darnall Army Community Hospital (DACH) has been given the authority by its higher headquarters, Health Services Command (HSC), to establish the first formally organized ambulatory surgical program in a Medical Department Activity (MEDDAC). This authority was granted based on the large patient population served by this facility and the continued shift of emphasis away from inpatient care toward outpatient care. Several conditions exist which prompted the study of the demand for ambulatory surgery. These conditions are:

Historical Conditions

1. An ambulatory surgical program was tried at DACH approximately six years before and was considered to be unsuccessful by the surgical physicians. This program was somewhat formalized since written goals, objectives and organizational structure existed. The program lacked the dedication of personnel resources to administer and manage the care and education of the patients. Many of the scheduled outpatient surgical procedures had to be cancelled because the patient did not follow preoperative instructions to not eat or drink after midnight the day of surgery or the failure of the patient to present himself at the appointed time.⁶

2. Consultations with the staff of the Walter Reed surgical center revealed that their program had start up difficulties because of lack of acceptance by some physicians. Their response to the problem was a

marketing analysis one year into their program to ascertain the needs and desires of the physicians and dentists that were utilizing their facility and especially those that were not utilizing the ambulatory surgical center.⁷

Environmental Conditions

1. Although DACH was given the ambulatory surgical mission and a HSC manpower team recognized that seventeen positions were required to staff this facility, the personnel authorizations were not granted with the exceptions of a civilian clerk and two civilian Licensed Vocational Nurses. Any additional personnel requirements must come from existing resources within the MEDDAC.⁸

2. In the near future during construction phasing of the renovation on the existing building, DACH will lose many of its 285 inpatient beds down to a low point of 177 beds. The current census of inpatients requiring beds is now at an average level of 185 per day.(APR82) Additionally there will be a loss of operating rooms from five to four for inpatient surgery.⁹

3. The lack of a comprehensive marketing analysis of the needs and desires of the patient population at Fort Hood presents DACH with the unknown factor of the acceptability of the ambulatory surgical concept by the beneficiaries of the military health care.

4. Although most physicians have stated complete support for the ambulatory surgical concept and desire the initiation of a program, there are some concerns regarding the numbers and types of surgical procedures to be done in the surgical center and the size of the surgical backlog. Additionally the program needs to be designed to meet the needs and desires of the physicians and dentists that will use the surgical center.

Need for a Market Analysis

The conditions existing at DACH have two basic components. The first component is a requirement to determine consumer (physician and patient) needs and desires. The physician consumer wants hospital goods and services that assist him in the provision of medical care. The patient consumer desires hospital services that meet his emotional and physical needs. The function of the hospital administrator is to compare these consumer's needs and desires to the hospitals capabilities and resources. This relationship represents the classic definition of the components of Marketing.¹⁰

Statement of the Problem

The problem is to determine the consumer demand for ambulatory surgery at Darnall Army Community Hospital, Fort Hood, Texas.

Objectives of the Research

The objectives of the research project will be:

— To determine the needs and preferences of DACH physicians regarding ambulatory surgery.

— To determine the needs, preferences, and knowledge about ambulatory surgery of the DACH patient population that would be likely candidates for this service.

— To determine the approximate amount of inpatient surgery that could be done on an outpatient basis.

— To determine the needed areas of patient and community education and the resources to devote to this effort.

— To develop a beginning marketing plan for the ambulatory surgical center at DACH.

Limitations on the Study

— No additional funding is available for providing a professional marketing firm to design and conduct a marketing analysis.

— There is little chance that DACH will receive an increase in manpower resources during the period of hospital construction and renovation.

— There is a time limit on the validity of the marketing analysis. Upon completion of the construction and renovation, the personnel allocations of the ambulatory surgical clinic and new operating rooms' will require reevaluation. The ability of the institution to continue with an outpatient program will require reappraisal at that time.

Review of the Literature

Marketing of health care is currently a topic of considerable interest in hospital administrative literature. Marketing is being represented as a survival tool in the competitive atmosphere of the eighties. At the First Annual Symposium of Health Services Marketing, Arthur Sturm, President of Sturm Communications Group, predicted, "Twenty percent of today's hospitals will not survive the 1980s while 50 percent of the surviving hospitals will be part of multi-institutional systems."¹¹ Several authors suggest marketing as a tool for hospital managers in the development of new services since a

major concern is the congruence of the hospital's resources with the wants and desires of their physician and patient publics.¹² Simon states that hospitals are responsible for many of their own problems with negative public attitudes toward the health care delivery system since they have not adequately marketed their role, services and needs to the consumer.¹³ Lachner emphasizes the mutually beneficial relationship which can exist when hospital services are fitted to the people served. He also feels that marketing can find and eliminate duplicated services, identify community concerns about health care and monitor the hospitals performance.¹⁴ Two authors contend that marketing is nothing new in hospitals. Cunningham states that marketing activities have existed by other names and are scattered throughout the organization.¹⁵ Clarke suggests that marketing contains activities which are essential to any organization with regard to determination of what service to offer, the price of the service, and the best way to deliver the service.¹⁶

Marketing Defined

An inelegant but accurate definition of marketing given by McMillan is:

—" Find out what people want and give them more of it.

—" Find out what people don't want and give them less of that."¹⁷

Most authors define health care marketing as the management of "exchange relationships". The exchange relationship concerns offering something of value such as a service in exchange for something of value such as money.¹⁸ Garton and MacStravic contend that the manipulation of these exchange relationships is the basis of all marketing.¹⁹ MacStravic characterized

marketing as problems or opportunities with the behavior of a specific group of people which could or should be changed. These groups are the hospital's publics or constituencies such as patients, doctors, employees, or regulatory agencies. MacStravic contends that marketing involves understanding the motivation of humans in the exchange relationship. Accurate marketing research is required to identify the set of people (market segment) and identify the behavior to be changed.²⁰ Keith gives a comprehensive definition of health care marketing:

"...health care marketing is a commitment on the part of top management to determine the wants, needs, and desires of the hospital's target population. This is accomplished through a method of systematic research so as to develop programs and services that not only attain the hospital's objectives but facilitate, through effective communication, an exchange relationship with the target population."²¹

Problems in Marketing

Marketing ideas have been slow to enter the health care arena because of the Madison Avenue image of the hard sell. The idea of a hospital selling its services, especially overselling its services, is an unethical practice in the minds of most hospital administrators and trustees. Hospitals have normally been very careful to plan marketing strategies emphasizing a service to the community orientation. In the case of hospitals, the benefits of the service are stressed rather than the attempt to create a need.²² Another problem with marketing health care is the predominant role health care professionals play in decisions about the amount and kinds of health

care services to be offered. Often a professional's perception of a needed service may not be the same as those of patients. When the patient does not comply with the professional's concept of needs and does not fully utilize the offered service, he is condemned by the medical profession.²³

The traditional approach many military hospitals have taken to the development of new health services has been through professional input. Fortunately the perceived community health needs by the professional are frequently completely correct, however when they have been wrong, monumental failures have occurred. Often the military health care facility's response has been an attempt to make the service work instead of prior determination of the patient population's desire for a new service before it was initiated. Marketing is a two-way process of forecasting needs, demand, and the amount of resources for the institution to devote to new services that the consuming patient and medical professional will want.²⁴

Marketing Research

The American Marketing Association's Committee on Definitions defines market research as a "systematic gathering, recording, and analysis of data about problems or opportunities relating to the marketing of business services." The approaches used to conduct marketing research includes surveys, panel discussions, direct observation, personal interviews, and analysis of published materials.²⁵

Marketing Audit

Most authors have encouraged hospitals to evaluate their own performance before embarking on any marketing strategy. This overall

picture of the hospitals performance in meeting the needs of all of its publics or constituencies is called a marketing audit by some authors while others see this procedure as only the first step of any marketing research.²⁶ The areas recommended to be included in a marketing audit are:

1. Identification and measurement of consumer health needs and how well they are currently being met.
2. Demographic analysis of the population, especially the total population, their age ranges, the size of each age group, and data on births, morbidity and mortality.
3. Analysis of the hospital's catchment area to include local demographics, local care needs and the local economic contributors.
4. Analysis of the availability of health manpower to meet current and projected health care needs.
5. Comparison of the community's total needs and how well all of the community's health care resources are meeting them.
6. Analysis of the feasibility and desirability of responding to the unmet needs of the patient population.²⁷

The audit serves the purpose of telling the hospital where it is. Further marketing research should then be used to tell the hospital which community needs it should attempt to meet with new services.

A Marketing Research Model

The administrative literature has a considerable number of authors that discuss the concept of marketing research. There are few models that have practical application in the health care market.²⁸ Flexner and Berkowitz have proposed a model which can be used for health services

planning. Their recommendation is to incorporate marketing into the overall hospital planning process.²⁹ The health services model is basically an attempt to broaden a hospital's market share. The model consists of three stages which are:

— Phase 1. Qualitative studies. The first phase is devoted to qualitative studies to identify problem areas which require further study. The authors recommend the use of focus group discussion, individual interviews, and group consensus processes.

— Phase 2. Quantitative studies. This phase is concerned with further study on components of problems identified in the qualitative phase. One form of study is a descriptive study of the relationship of the hospital with its constituencies. The other quantitative study is an analysis of the demographic trends of the institution and is primarily concerned with providing an accurate picture of the hospital's catchment area and the referral patterns of the professional staff. The authors suggest that use of external sources will speed up the collection of data. Data collection methods suggested are surveys by mail or phone and personal interviews.

— Phase 3. Planning, implementation, and evaluation. The proponents of the model stated the concern that, "the results of the data collection are translated into feasible programs".³⁰ Flexner and Berkowitz do not go into great detail regarding the implementation of the marketing plan but do state that the effectiveness of any program using this model can be evaluated by analysis of utilization of the service, revenues and costs, and consumer compliance and satisfaction.³¹ This model has the benefit of having been used by a health care institution to create a broadly based

marketing program and its practical application has been demonstrated to be effective. The amount of data to be collected and analyzed make a strong case for the hiring of a consultant firm or creation of a marketing department within the hospital organization.

An Ambulatory Marketing Model

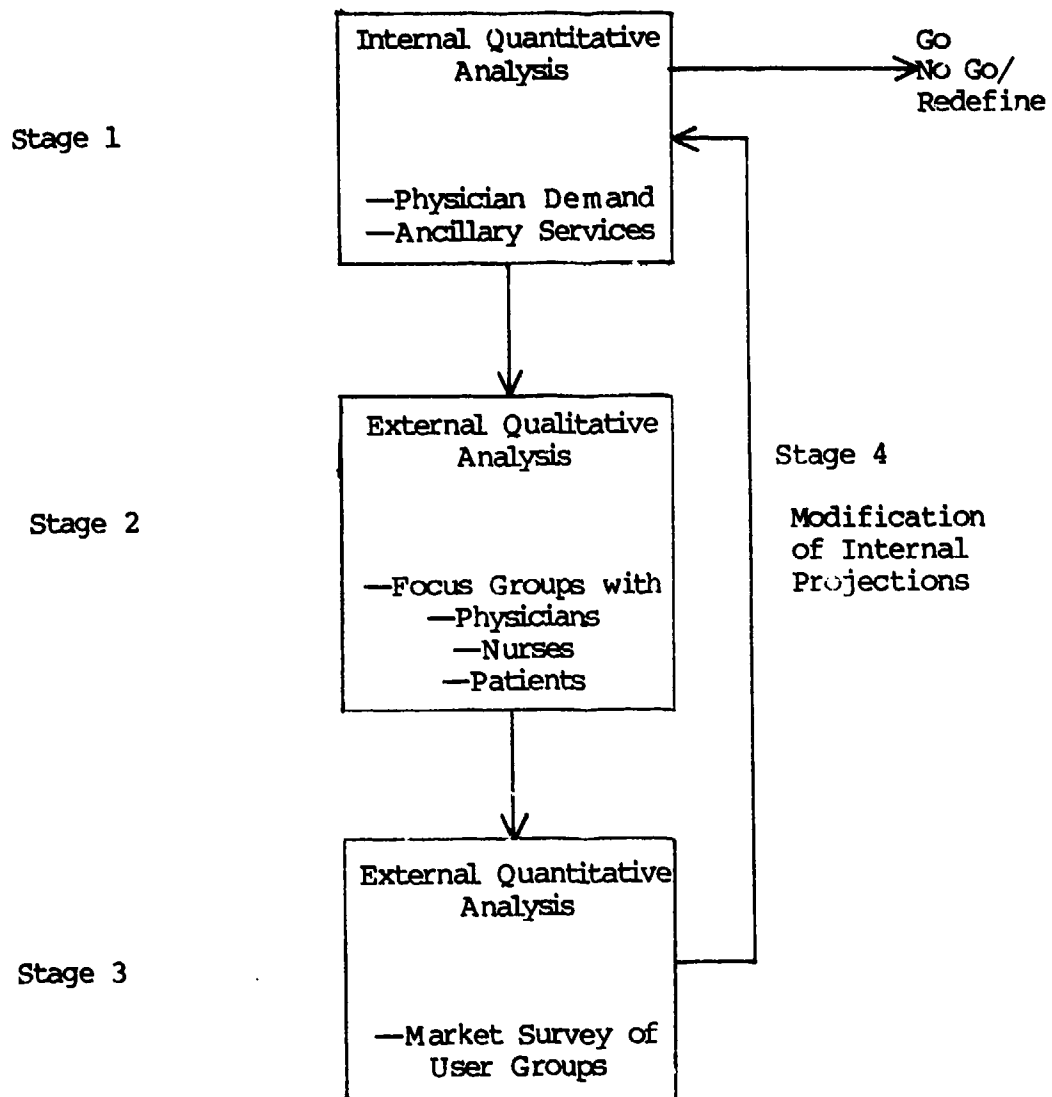
The traditional method of marketing research begins with qualitative data collection and after identification of problems is followed by quantitative methods of data collection. Berkowitz recommends a modified marketing model for ambulatory surgery programs based upon the model he and Flexner proposed for health services planning. The proposed ambulatory surgical marketing model is in the form of a demand analysis. The demand analysis model is composed of four stages of development which are displayed in table 1.³²

Stage 1. Internal Quantitative Analysis

The purpose of the first stage is to determine whether there is a justified need for an ambulatory surgical program at the hospital. This stage depends on existing institutional data available from existing hospital patient records. The value of this means of obtaining information is that it can be done prior to notification of regulatory agencies and prior to initiating any further studies. Berkowitz recommends a five-year retrospective period if possible to establish trend data for aggregate demand and demand by physician and surgical specialty. Physician interviews are not conducted at this time because the hospital wants totally unbiased information based on historical trend data. The administrator can now make an appropriate decision on whether to pursue an ambulatory surgery demand analysis further,

Table 1

DEMAND ANALYSIS SEQUENCE



abandon the concept, or redefine the goals of the size and organization of a program.³³

Stage 2. External Qualitative Analysis

If the quantitative analysis demonstrates promise for a new service, then qualitative analysis should be undertaken. Berkowitz recommends use of focus group interviews to elicit emotional and subjective responses to the concept of ambulatory surgery program. These interviews give the analyst some insight into the consumers preferences regarding the proposed program. The focus group interviews should be conducted to reveal existing perceptions regarding ambulatory surgery and their desires about how the program should work. One focus group he recommends should be composed of 10 to 12 of the physicians that will be primary users of the proposed service. The data regarding the prime users will have previously been obtained in the internal quantitative stage. Another focus group recommended would be composed of patient consumers which have been prescreened for surgical experience. The information obtained in this stage would be helpful in the composition of survey instruments which will be required for stage 3.³⁴

Stage 3. External Quantitative Analysis

The third phase requires an assessment of the interest and perceptions of the prospective users on a broader scale. An external quantitative market survey is conducted at this point to determine the intention to use the service when and if it is offered. Analysis of the responses to these surveys may require a fourth stage.

Stage 4. Modifications of Internal Projections

The analysis of the responses to surveys conducted may be negative

requiring a reevaluation of the original Go/No Go decision made in stage one. Another possibility may be a redefinition of the proposed program to meet the needs and desires of the consumers.³⁵

Marketing Research on Ambulatory Surgical Centers

A review of the literature on marketing and ambulatory surgery did not reveal a significant amount of literature on the application of any marketing plans for outpatient services such as ambulatory surgery. Walter Reed Army Medical Center is the only Army Medical Department facility that currently has an organized ambulatory surgical program and their marketing effort was performed after the program was established with total emphasis on the physician. The application of Berkowitz's model for a demand analysis to a Medical Department Activity (MEDDAC) will be utilized in the research methodology to establish the demand for ambulatory surgery in the Fort Hood community and the type service that will appeal to the user groups.

Research Methodology and Approach to the Research Question

The model proposed by Berkowitz meets the needs of a demand analysis for the ambulatory surgical center at Darnall Army Community Hospital. The requirements set down in each of the stages will be accomplished in the following manner:

— Stage 1. Internal Quantitative Analysis. The data requirements of this stage are to gather as much retrospective data as possible to establish trend information about the aggregate demand. This requirement is

only for an approximate figure to establish the basic need for the service. A review of the ambulatory surgery literature revealed numerous lists of suggested surgical cases that could be done on an ambulatory basis. The chief of each surgical service at DACH will be interviewed about which cases would be appropriate for an ambulatory surgical program. This information will be analyzed and compared to the Ranked Diagnoses and Surgical Procedures profile for calendar year 1980. This report comes out yearly and lists all of the surgical procedures by the International Classification of Diseases (ICD). These procedures are listed by the number of procedures done in that year and ranked by the Patient Administration and Biostatistics Agency (PASBA). Upon receipt of this information a Go or No Go decision can be made with regard to continuing the study.

— Stage 2. External Qualitative Analysis. If the Go decision is made, then focus groups can be ascertained to forecast the primary surgical services that will be utilizing the ambulatory surgical service. Interviews will be conducted with the primary users of the facility to ascertain the perceptions and thoughts about an ambulatory surgical service. The patient focus group will be more difficult to ascertain. For purposes of the research a preliminary focus group will be the Ladies Auxillary which has monthly meetings with the commander or his representative to discuss the patient public's perception of the medical services at DACH. This group was selected because each member is from a different sector of the Fort Hood community. This group will be interviewed using a structured interview to ascertain comments and concerns about the ambulatory surgical center concept. The comments and concerns of both focus groups will be utilized in

construction of surveys which will be used in the external quantitative stage.

— Stage 3. External Quantitative Analysis. In this stage, surveys will be constructed and pilot surveys will be done to arrive at quality survey instruments for physicians and patients. The surveys will be conducted in the following manner:

Physician survey. This survey will be administered to as many surgeons as possible at DACH in an attempt to ascertain the knowledge and familiarity with the ambulatory surgical concept. Additional information will be collected regarding the physicians perceptions of the number of surgical cases he does each week eligible for ambulatory surgery and the backlog of patients he currently has that could be done on an ambulatory basis.

Patient survey. The patient survey is more difficult to perform since the desire of the researcher was for a representative sample. The data provided in Stage 1 provides a sample of the most common surgical cases that the physicians feel could be done on an ambulatory basis. Analysis of this data will provide representative surgical patients to survey. If possible all six of the surgical specialties will be represented in the case mixture. The goal is to survey those patients that have had recent surgical experience at DACH, the surgery must have been from the list of procedures that the physicians feel is appropriate for ambulatory surgery, and the procedure must have required a short stay and been the sole reason for hospital admission. The information goals of the survey are to determine how acceptable the ambulatory surgical concept is to the Fort Hood patient population and their concerns about such a program. The analysis of this stage is the heart of the demand analysis. Descriptive information from the

surveys and Chi-square contingency tables will be used to analyze the data returned. An analysis of the surveys return rate will be included.

— Stage 4. Modification of Internal Projections This stage will be undertaken only if the analysis proves that the original projections were false and require a new decision or redefinition of the service.

The overall goals are to answer the research questions and develop a preliminary marketing plan following the Marketing mix methodology. The results of the final analysis should be a better understanding of the physician and patient needs and desires for an ambulatory surgical program at Darnall Army Community Hospital.

FOOTNOTES

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II. DISCUSSION

General

The study of the applied research question follows the model proposed by Berkowitz. Each stage will be discussed separately to provide an orderly progression through the analysis process. Each stage will include the method of data collection and an analysis of the data collected.

Stage 1. Internal Quantitative Analysis

The purpose of this stage as stated in the model is to determine whether an ambulatory surgical program is justified and worthy of further exploration. The first concern was to determine those procedures that physicians desired to do in the ambulatory surgical center. The Chief of Surgery had recently requested such a list from his surgical service chiefs. This list was rather extensive and stated in a form inconsistent with the International Classification of Diseases (ICD) codes. In order to resolve this problem individual interviews were conducted with each surgical service chief in order to arrive at appropriate surgical procedure codes. Upon completion of the interviews, the list of procedures was compared to the Ranked Diagnoses and Surgical Procedures Hospital Profile for calendar year 1980. This profile utilizes only the principal surgical procedures and eliminates associate ones which is desirable for this stage of analysis. Less desirable is the diagnoses grouping procedure utilized on this report because this sometimes prevented accurate assessments of which surgical service

performed a procedure. The results of this comparison revealed twenty eight ICD grouped surgical diagnoses that the physicians desired to perform on an ambulatory basis and that had not less than ten procedures performed at DACH in calender year 1980.

Gathering of Retrospective Data

The information received from analysis of the diagnoses and procedure profile enabled a request to be sent for a special report from the Patient Administration and Biostatistics Agency. This request listed the surgical diagnoses by ICD code. The special limiting qualifications requested for this report were:

1. The surgical procedure had to be the main reason for admission to the hospital. An example would be a patient that had a tubal ligation after delivery of a child. This patient should be deleted since the surgery was associated with another primary diagnosis.

2. Patients that had hospital stays of over 3 days would not be likely candidates for ambulatory surgery. A basic requirement of a successful ambulatory surgery program is the need for a highly refined degree of patient selectivity for anesthesia. Normally only the American Society of Anesthesiology classifications I and II are acceptable for ambulatory surgery and only allow minor systemic health problems. This would eliminate many older patients or patients with hypertension or moderate diabetes.¹

The findings of the retrospective report are found in table 2. The data from only calender year 1980 and January through September 1981 was used for trend analysis for two major reasons. First was the historical

Table 2
PASBA SOLE SURGICAL PROCEDURES REPORT WITH
LESS THAN 4 BED DAYS

Surgical Code	ICD Diagnoses	Number CY1980	Surgery Jan-Sep81	Done Total
5101	Eye Muscle Recission	12	3	15
5102	Eye Muscle Advancement	33	32	65
5200	Myringotomy (P.E. Tubes)	44	104	148
5217	Plastic Repair on Nose	28	37	65
5401	Simple Lymphatic excision	10	17	27
5493	Hemorrhoidectomy	12	6	18
5530	Inguinal Hernia Repair	65	38	103
5534	Umbilical Hernia Repair	16	6	22
5535	Other Hernia Repair	5	5	10
5611	Excision of Hydrocele	6	2	8
5622	Unilateral Orchiectomy	2	5	7
5624	Orchiopexy	7	6	13
5630	Excision of Varicocele	29	23	52
5663	Bilateral Tubal Ligation	93	101	194
5664	Other Tubal Ligation	55	56	111
5690	Dilation and Curettage	340	281	621
5700	Culdcentesis	7	6	13
5753	Amniocentesis	3	4	7
5782	Bunionectomy	10	19	29
5788	Remove Orthopedic Devices	14	21	35
5820	Incision of Soft Tissue	1	1	2
5822	Excision of Soft Tissue Lesion	18	27	45
5832	Excision of Soft Tissue Lesion	4	4	8
5860	Local Excision of Breast Lesion	84	39	123
5884	Excision of Subcutaneous Tissue	63	49	112
5987	Excision of Pilonidal Sinus	2	3	5
Total		963	896	1858

factor that DACH and the Army Medical Department had a severe shortage of physicians prior to 1980. This problem has been resolved and the surgical physician strength at DACH is approaching an appropriate level. The shortage of surgeons prior to 1980 and the severe shortages in some specialties such as orthopedics led to the conclusion that the calendar year 1979 surgical procedures were not reflective of current trend data. The second reason was that the International Classification of Diseases had its ninth revision which changed the coding system too radically to give accurate data for the years preceding 1980. For these reasons trend data was established for only two years since this trend data is more indicative of the current environment at DACH.

Analysis of Internal Quantitative Data

Although this data is by no means complete it does give a reasonably accurate indication that each year had nearly one thousand surgical procedures which appear to be appropriate for ambulatory surgery. Some interesting information can be ascertained from analysis of the report received from PASBA. A significant factor seen in table 3 and table 4 is that the top three procedures in both tables are approximately 54 percent of the total number of cases surveyed. Another factor revealed in both tables is that the top ten procedures performed in both time periods comprise approximately 86 percent of the total number of cases surveyed. Analysis of the total number of surgical procedures by surgical service in table 5 reveals that in both years the same three surgical services performed 88 percent of the procedures surveyed with the Obstetrics and Gynecology service performing 50 percent of all the surveyed procedures. It is notable that

Table 3
RANKED SURGICAL DIAGNOSES FROM CY1980
APPROPRIATE FOR AMBULATORY SURGERY

RANK	Surgical Code	ICD Diagnoses	Number Done	Frequ- ency (%)	Cumula- tive (%)
1	5690	Dilation and Curretage	340	35.3%	35.3%
2	5663	Bilateral Tubal Ligation	93	9.7%	45.0%
3	5860	Local Excision of Breast Lesion	84	8.7%	53.7%
4	5530	Inguinal Hernia Repair	65	6.7%	60.4%
5	5884	Excision of Subcutaneous Tissue	63	6.5%	66.9%
6	5664	Other Tubal Ligation	55	5.7%	72.6%
7	5200	Myringotomy (P.E. Tubes)	44	4.6%	77.2%
8	5102	Eye Muscle Advancement	33	3.4%	80.6%
9	5630	Excision of Varicocele	29	3.0%	83.6%
10	5217	Plastic Repair of Nose	28	3.0%	86.6%

Table 4
RANKED SURGICAL DIAGNOSES FROM JAN-SEPT 1981
APPROPRIATE FOR AMBULATORY SURGERY

RANK	Surgical Code	ICD Diagnoses	Number Done	Frequency (%)	Cumulative (%)
1	5690	Dilation and Curettage	281	31.4%	31.4%
2	5200	Myringotomy (P.E. Tubes)	104	11.6%	43.0%
3	5663	Bilateral Tubal Ligation	101	11.3%	54.3%
4	5664	Other Tubal Ligation	56	6.3%	60.6%
5	5884	Excision of Subcutaneous Tissue	49	5.5%	66.1%
6	5860	Local excision of Breast Lesion	39	4.4%	70.5%
7	5530	Inguinal Hernia Repair	38	4.2%	74.7%
8	5217	Plastic Repair of Nose	37	4.1%	78.8%
9	5102	Eye Muscle Advancement	32	3.6%	82.4%
10	5822	Excision of Soft Tissue Lesion	27	3.0%	85.4%

Table 5
NUMBER OF SURGICAL PROCEDURES
SURGICAL SERVICE

Surgical Service	CY 1980			JAN-SEPT 1980		
	Proced- ure	Frequ- ency	Cumula- tive	Proced- ure	Frequ- ency	Cumula- tive
OBSTETRICS AND GYNECOLOGY	498	51.7%	51.7%	448	50.0%	50.0%
GENERAL SURGERY	280	29.1%	80.8%	196	21.9%	71.9%
EAR, NOSE, THROAT	72	7.5%	88.3%	141	15.7%	87.6%
ORTHOPEDICS	24	2.5%	90.8%	40	4.5%	92.1%
EYE SERVICE	45	4.6%	95.4%	35	3.9%	96.0%
UROLOGY	44	4.6%	100.0%	36	4.0%	100.0%
TOTAL	963			896		

the Ear, Nose, and Throat service doubled its percentage of the procedures performed. This was caused by the addition of another physician to this service during 1981. This indicates that some very long backlogs existed which was confirmed by the physicians in this service. The results of this analysis gives a preliminary indication that there could possibly be a need for an ambulatory surgery program at DACH. The author made the Go decision and proceeded to the External Qualitative Stage.

Stage 2. External Qualitative Analysis

This stage of the demand analysis is concerned with the use of focus groups to, "elicit emotional and subjective statements revealing the participants' preferences....".² The focus group discussion held with the physicians was conducted in a meeting of the surgical service chiefs. The primary concern of these physicians was to increase the productivity of their service. They identified the shortage of ancillary personnel and the lack of sufficient operative time as their major problems. All of the chiefs of service indicated that the service had a backlog of patients that did require surgery but they were prevented from performing these procedures by lack of operative time. Smaller services were forced to cancel many cases which could be done on an ambulatory basis since emergency procedures consumed much of the limited inpatient operative time allotted to them.

The second focus group discussion was held with the Ladies Auxillary. This group is in reality a consumer advisory board since most major commands, housing areas and NCO and Officer Wives clubs are represented. This group of consumers has demonstrated that they have great

knowledge of the desires and concerns of the Fort Hood community. The concept of ambulatory surgery was discussed with this group in a neutral manner so as to not bias the responses given. Most of the ladies indicated previous knowledge of the ambulatory surgical concept. Their major concerns with the initiation of an ambulatory surgery program were:

1. Many patients would not know how to care of themselves when they went home after ambulatory surgery.

2. Most children and husbands would not help a mother at home after ambulatory surgery.

3. Many patients might feel that a few days rest in the hospital was desirable even after minor surgery.

Although these concerns were expressed, the major feeling communicated was great enthusiasm for this type service and a desire for its immediate initiation.

A third focus group was composed of the three head nurses of the surgical wards that admit, prepare, teach, and discharge the patients that have the surgical procedures considered in the Internal Quantitative Stage. All of the nurses concerned looked favorably on an ambulatory surgical program even though the aspect of losing some of their personnel to staff the ambulatory surgical center was mentioned as a possibility. Two of the head nurses indicated that this program would help considerably to smooth out their workload since they have episodes of numerous admissions and discharges for surgical patients. This factor alone makes staffing the ward very difficult and places an extreme paperwork burden on the staff on days when admissions and discharges are numerous. The major concerns of the

head nurses were that the ambulatory surgical program must deliver on the promises of fewer short stay surgical inpatients and smoothing of the inpatient nursing units workload to be of value to the hospital.

Stage 3. External Quantitative Analysis

The purpose of this stage is to obtain a broadly based assessment of the interest and perceptions of the prospective users of the ambulatory surgical center. The methods elected to secure the required user data was by two survey instruments. The first instrument was an in-house survey of the surgeons at DACH. The second instrument was a mailed survey to patients with previous surgical experience at DACH.

Physician Survey

This instrument was designed utilizing the comments of the physician focus group discussions as a starting point. The survey instrument is included in appendix A. The survey instrument was pilot tested utilizing the comments of the hospital Commander and the Chief of Professional Services. The survey in its final form was administered to 24 physicians which included 3 residents, 7 junior staff members and 14 senior medical staff members. A profile of the physician survey sample and return rate is included in table 6. Since the sample size is rather small the analysis of this survey is rather simple when compared to the much larger sample size of the patient survey. The aggregate results of the physician survey can be found in table 7.

Analysis of Physician Survey Data

The physician survey was conducted on a rather large sample proportion of the surgeon population. This was purposely done in order to

Table 6
PHYSICIAN SURVEY RETURN RATES

SERVICE	ENT	EYE	OB/GYN	ORTHO	GEN SURG	URO	Total
# of Physicians surveyed	2	1	7	6	6	2	24
# of physicians on staff	2	1	9	6	5	1	24
Residents	0	0	2	0	2	1	5
Total	2	1	11	6	7	2	29
Percent surveyed to # on staff by service	100%	100%	81.8%	100%	85.7%	100%	82.8%
Breakdown of Surveyed Staff by Experience							
Resident	0	0	0	0	2	1	3
JR Staff	2	1	0	2	2	0	7
SR Staff	0	0	7	4	2	1	14

Table 7
RESULTS OF PHYSICIAN QUANTITATIVE SURVEY

SERVICE # of physicians surveyed	ENT 2	EYE 1	OB/GYN 7	ORTHO 6	GEN SURG 6	URO 2	Total 24
Knowledge about ambulatory surgery							
Very Familiar	0	1	5	5	3	1	15
Familiar	2	0	2	0	3	1	8
Unfamiliar	0	0	0	1	0	0	1
Number of cases that could be done on ambulatory basis							
1 per wk	0	0	1	1	1	1	4
2-5 per wk	0	1	5	4	4	1	15
5-10 per wk	2	0	1	1	1	0	5
More than 10	0	0	0	0	0	0	0
None	0	0	0	0	0	0	0
Current Backlog of cases that could be done on an ambulatory basis							
No Backlog	0	0	1	0	1	1	3
1-5 patients	0	0	4	0	2	1	7
5-10 patients	1	1	1	5	1	0	9
More than 10	1	0	1	1	2	0	5
Projected procedures in the ASC if offered							
1-5 per wk	0	1	7	4	4	1	17
5-10 per wk	1	0	0	2	2	0	5
More than 10	1	0	0	0	0	1	2
Priority of need for ASC at DACH							
High	2	1	4	4	1	0	12
Moderate	0	0	3	2	5	2	12
Low	0	0	0	0	0	0	0

measure the physicians' perceptions of the number of surgical cases that could be done on an ambulatory basis versus the original internal quantitative projections of stage 1. The survey return rates in table 6 reveal an overall rate of 82.8% of the surgical physicians, however the final total of the permanently assigned staff to the surveys return rate is 87.5%. This indicates a near total population survey rate with only 3 physicians not surveyed.

The results of the survey contained in table 7 indicate that most of the physicians feel they are familiar with the concept of ambulatory surgery. Interviews with several of the physicians and the comments offered on the survey indicated that most of the physicians had an excellent understanding of the concepts of ambulatory surgery and the organizational requirements for a successful program. The projections of the physicians were examined utilizing the Wald decision theory concept of maximin. The categories of the survey were purposely wide with regard to the number of projected ambulatory patients and backlogs to utilize the minimization technique. Utilizing the minimum figure for each category in the survey, the physicians felt that they performed 59 procedures a week in the operating rooms that could be performed as well on an ambulatory basis. The projected backlog was a total of 102 patients. It is interesting to note that the greatest backlogs were 15 patients in ENT, 19 patients in OB/GYN and 35 patients in Orthopedics. Conversations with the physicians in these services revealed a true backlog of approximately 50 patients in each service. The physicians indicated a projected demand for 62 surgical procedures per week which far exceeds the capacity of the ambulatory surgical center facility constructed

at DACH.

The physicians commented favorably on the concept of ambulatory surgery but expressed several concerns. The major concerns were for appropriate personnel to run the program and the desire to not compromise inpatient surgical practice in the main operating rooms. The Ophthalmologist projected a doubling of his surgical procedures performed if ambulatory surgery were provided with only inter-ocular surgery requiring the inpatient surgery. The Orthopedic physicians projected an expansion of their services to include many more orthoscopic examinations and approximately 75 percent of all foot surgery being performed on an ambulatory surgical basis. The overwhelming desire of the physicians was to be able to perform surgery in a more productive manner and a reduction of the administrative burden of the inpatient admission paperwork.

Patient Survey

The patient survey is the heart of the demand analysis for the ambulatory surgical program. The general theme of the marketing literature is that health care administrators forget to ask the patient what he desires in a service. The patient survey was undertaken to ascertain several questions regarding the Fort Hood community. These questions were:

1. How many patients had heard of the concept of ambulatory surgery?
2. What are their feelings about the surgical services offered at DACH and the staff that cared for them?
3. What effect did the age of the patient's age have on the

willingness to try ambulatory surgery?

4. What effect did the surgical procedure the patient had performed at DACH have on the patient's willingness to try ambulatory surgery?

5. The patient's reasons why ambulatory surgery would or would not be an appropriate alternative to inpatient surgery?

In order to meet the patient user input requirement, a mail out survey was selected to secure an sample the researcher could reasonably expect to represent the feelings of the community.

Survey Population Selection

The survey population decision was based on Berkowitz's recommendation that patient surveys for ambulatory surgery be administered to patients prescreened for previous surgical experience.³ The population selected was not only for patients that had surgery at DACH during the 1981 but also a surgical procedure which the physicians had indicated to be appropriate for ambulatory surgery. The list of patients meeting this requirement was requested from PASBA with the Internal Quantitative Analysis data in stage 1. Five surgical diagnoses were selected to represent five of the six surgical services. The Orthopedic service was not represented because no one diagnosis had significant numbers of procedures performed in 1980 to secure the desired sample size. The five diagnoses selected were:

- Inguinal Hernia Repair
- Eye muscle Recession
- Myringotomy and Insertion of P.E. Tubes
- Bilateral Tubal Ligation
- Hydrocelectomy of Spermatic Cord

The reasons these procedures were selected was that each had more than 20 but less than 100 procedures performed in 1980. Another reason is that each procedure is performed by only one surgical service at DACH. All of the procedures were designated by the physicians as being excellent choices for ambulatory surgery for most patients. The final list of names of these patients received from PASBA were screened by the same methodology as used in stage 1. This eliminated any patient that was admitted for another primary diagnosis and/or any patient that had a stay longer than three days. The number of patients from PASBA was a total of 298 for these five diagnoses. The patient numbers were researched in the DACH patient data system utilized by the Patient Appointment System (PAS). The final number of patients with mailing addresses came to a total of 277. This was the number of surveys mailed to the patient population.

Patient Survey Instrument.

The patient survey instrument was constructed utilizing information from the Ladies Auxillary patient focus group. The survey instrument was pilot tested in four different iterations to obtain as valid an instrument as possible. The instrument was tested for the purpose of assuring clarity and ease of understanding by the general public. The survey was given to two different groups of patients that had the selected surgical procedures upon the first postoperative return appointment. The survey was revised several times to accommodate needed changes to meet the average patient's level of understanding. The final pilot survey was given to members of the Ladies Auxilliary not only to obtain feedback regarding the design of the instrument but also since several of the members had english as a second language.

The final instrument was mailed with a cover letter from the hospital Commander requesting the help of these former patients in evaluating a new service being considered for DACH. A complete patient survey instrument is located in appendix B.

Patient Survey Return Rates.

The goal of the researcher was to have a minimum of 75 patient surveys to establish the patient public's needs and desires. This number would be approximately a thirty per cent return rate. The marketing literature indicates that an expected return rate of thirty percent on a mailed survey as being optimistic.⁴ Fortunately the literature's predictions did not occur in this case since a total of 130 surveys were returned out of a total of 277 mailed out. This is a return rate of approximately 47 percent. This rate is even more remarkable in view of the transient nature of the military population with over 20 percent of the surveys being returned as undeliverable. Ten surveys were administratively eliminated for various reasons such as responding to the wrong surgical procedure and being incomplete. The final number of surveys included in the patient quantitative analysis is 120 which is 43.3 percent of the total number of surveys mailed. Tables 8 and 9 give the breakdown of the patient survey return rates. Two variances noted were the 80 percent return rate for the retired patients and the low return rate of 30 percent for patients that had eye surgery. The high retired return rate can be explained by the less transient population of retired patients and the low number of retired patients that met the criterion established. The low response rate for the patients having eye surgery could not be determined.

Table 8
PATIENT SURVEY RETURN RATES

CATEGORY	TYPE	SURVEYS MAILED	RETURNED SURVEYS	PERCENT
AGE	ADULTS	135	56	41.5%
	CHILDREN	142	64	45.1%
	TOTAL	277	120	43.3%
SEX	MALE	140	56	40.0%
	FEMALE	137	64	46.7%
	TOTAL	277	120	43.3%
STATUS	ACTIVE DUTY	45	15	33.3%
	RETIRED	5	4	80.0%
	DEPENDENT	227	101	44.5%
	TOTAL	277	120	43.3%
SURGICAL PROCEDURE	HERNIA	37	17	45.9%
	MYRINGOTOMY	97	48	49.5%
	EYE/RECISSION	30	9	30.0%
	TUBAL LIGATION	91	38	41.8%
	HYDROCELECTOMY	22	8	36.4%
	TOTAL	277	120	43.3%

Table 9
ANALYSIS OF PATIENT SURVEYS USED IN DEMAND ANALYSIS

CATEGORY	SEX	ACTIVE	RETIRED	DEP/ACT	DEP/RET	TOTAL
ADULT	MALE	11	4	0	0	15
	FEMALE	4	0	34	3	41
		15	4	34	3	56
CHILD	MALE	0	0	39	2	41
	FEMALE	0	0	19	4	23
		0	0	58	6	64

Analysis of Patient Survey Data

The survey data was examined in several ways to determine aggregate information and to cross tabulate the data to see patterns of patient behavior. The aggregate data of all the answers to the survey questions is included in table 10. This data serves very little purpose except in the few cases that a question received so few responses that it may safely be disregarded. The aggregate data does answer the first question regarding patient knowledge of the ambulatory surgical concept.

Question 1. Patient Previous Knowledge of the Ambulatory Surgical Concept.

The patient population had heard of the concept of ambulatory surgery at a higher level than anticipated by the researcher. A total of 89 surveyed patients responded that they had heard about ambulatory surgery. This is approximately 74.2 percent of the patient population surveyed. This level of awareness of the outpatient mode of surgery indicates the depth of knowledge of health care trends of this population since there is not an ambulatory surgical program within the community and none nearer than sixty miles of Fort Hood.

Question 2. Patient Feeling About Previous Hospital Stay at DACH.

A portion of the survey was devoted to an appraisal of the patients' previous surgical stay at DACH. This question was designed to gauge the feelings of the patient population about the care, staff and physical facilities at DACH. Another factor to be examined is the effect the patients' satisfaction with his previous stay had on their response to the questions regarding their desire to try ambulatory surgery. Although the scale utilized in the question listed five different responses, the responses were finally

Table 10
AGGREGATE RESPONSES TO PATIENT SURVEY

HOSPITAL STAY	Satisfactory 88	OK 30	Unsatisfactory 2
Ambulatory surgery for Previous procedure in 1981	Yes 71	No 47	Don't Know? 2
Previously Heard of Ambulatory surgical Concept	Yes 89	No 31	
Try Ambulatory Surgery if Offered	Yes 67	No 20	Don't Know? 33

categorized as satisfied, unsatisfied and a neutral response of Just OK. The Just OK response was those patients that felt there were more than one area that DACH could improve on. The responses indicated that 88 patients were satisfied with their care and 49 patients felt that their care was only Just OK. Only two patients were dissatisfied with their hospital stay and this number is not sufficient to be considered significant. A contingency table was constructed to examine the question of whether the patients degree of satisfaction with his previous hospital stay had a statistically significant effect on his response to the question of trying ambulatory surgery for the type operative procedure he had. The contingency table can be found in table 11 and the calculated chi-square statistics can be found in table 12. The results of these calculations demonstrate that the two criterion are independent, that is, that feelings about the previous hospital stay had no effect on the patients willingness to try or not try ambulatory surgery for the type surgical procedure he had experienced at DACH in 1981.

Question 3. Patient's Age and Trying Ambulatory Surgery.

This question regarding the patients' perceptions about the appropriateness of ambulatory surgery is undoubtedly the most difficult to determine. A factor that had to be examined regarding the answers received was the patient's age. The responses regarding the patients age and the willingness to try ambulatory surgery are contained in table 13. The statistical significance of the responses were examined using chi-square contingency analysis are contained in table 14. The results demonstrate a strong dependent relationship between the patients age and the willingness to try ambulatory surgery even when the level of significance is examined up to

Table 11
CONTINGENCY TABLE
PREVIOUS HOSPITAL STAY AND POSSIBLE AMBULATORY SURGERY

Satisfaction with Past Hospital Stay	Try Ambulatory Surgery for Previous Type Procedure			Total
	YES	NO	DON'T KNOW?	
SATISFIED	53	33	2	88
OK	17	13	0	30
UNSATISFIED	1	1	0	2
Total	71	47	2	120

Table 12
CHI-SQUARE ANALYSIS
AGE OF PATIENT AND POSSIBLE AMBULATORY SURGERY

I	J	OBSERVED	EXPECTED	CHI-SQ
1	1	53	52.0667	.0167307
1	2	33	34.4667	.0624114
1	3	2	1.46667	.193939
2	1	17	17.75	.0316901
2	2	13	11.75	.132979
2	3	0	.5	.5
3	1	1	1.18333	.0284037
3	2	1	.0783333	.0599291
3	3	0	.0333333	.0333333

Chi-Square Statistic for 4 degrees of Freedom: 1.05942

Chi-Square Critical Value: 7.7779

Conclusion: INDEPENDENT

TABLE 13
CONTINGENCY TABLE
AGE OF PATIENT AND POSSIBLE AMBULATORY SURGERY

Try Ambulatory Surgery	Age of the Patient		
	Adult	Child	Total
YES	15	56	71
NC	41	8	49
Total	56	64	120

Table 14
CHI-SQUARE ANALYSIS
PATIENT'S AGE VS. TRY AMBULATORY SURGERY

I	J	OBSERVED	EXPECTED	CHI-SQ
1	1	15	33.1333	9.92408
1	2	56	37.8667	8.68357
2	1	41	22.8667	14.3798
2	2	8	26.1333	12.5823

Chi-Square Statistic for 1 Degree of Freedom: 45.5697

Chi-Square Recalculated with Yate's Correction: 48.1174

Chi-Square Critical Value: 7.879

Conclusion: DEPENDENT

the .005 level. It should be noted that the respondents to the survey were not the young patients themselves but an adult family member. This finding must be qualified with the observation that this response is at least partially subjective. However, the parent will make the final decision regarding the use of the ambulatory surgical center's services. The overall finding is that an overwhelming majority of parents desire this service for their children but display less enthusiasm for ambulatory surgery on themselves.

Question 4. Patient's Surgical Procedure and Trying Ambulatory surgery

A further examination of the willingness to try ambulatory surgery when compared to the surgical procedure the patient previously experienced demonstrates a different trend. The data found in table 15 points out that the majority of respondents willing to try ambulatory surgery came from Myringotomy procedures. Two procedures that the majority of respondents were unwilling to try on an ambulatory basis were Tubal Ligations and Hydrocelectomies which are almost totally performed on adults. The chi-square analysis in table 16 demonstrates the dependence of these two factors. This dependence means that there is a significant relationship between the procedure to be done and the willingness to have the type procedure done on an inpatient or ambulatory basis. The reasons for the unwillingness to try ambulatory surgery will be further explored in the following section.

Question 5. Patient's Reasons About Willingness to Try Ambulatory Surgery

A part of the research question is concerned with the reasons patients may or may not favor having ambulatory surgery. The patient survey had two questions which were formulated from discussions with the

Table 15
CONTINGENCY TABLE
OPERATIVE EXPERIENCE AND POSSIBLE AMBULATORY SURGERY

Try ambulatory Surgery	Patient's Operative Procedure					Total
	Hernia	Eye Recission	Myring- otomy	Tubal Ligation	Hydrocel- ectomy	
YES	10	5	44	11	2	72
NO	7	4	4	27	6	48
Total	17	9	48	38	8	120

Table 16
CHI-SQUARE ANALYSIS
PREVIOUS PROCEDURE VS. TRY AMBULATORY SURGERY

I	J	OBSERVED	EXPECTED	CHI-SQ
1	1	10	10.2	3.92156E-03
1	2	5	5.4	.0296296
1	3	44	28.8	8.02223
1	4	11	22.8	6.10702
1	5	2	4.8	1.6333
2	1	7	6.8	5.88234E-03
2	2	4	3.6	.044445
2	3	4	19.2	12.0333
2	4	27	15.2	9.16053
2	5	6	3.2	2.45

Chi-Square Statistic for 4 Degrees of Freedom: 39.4903

Chi-Square Critical Value: 10.645

Conclusion: DEPENDENT

patient focus group. The responses for the patients that did not want to try ambulatory surgery for the type surgery they had previously had at DACH are contained in table 17. The responses for those willing to try ambulatory surgery are contained in table 18.

Responses of Patients Unwilling to Try Ambulatory Surgery

The overwhelming response of patients unwilling to try ambulatory surgery was the need to recover for a few days after surgery and the inability to do that at home. The other major responses were the need to care for children after surgery and the fear of being unable to care for themselves at home. These responses demonstrate the importance of patient education and the reluctance of some patients to assume responsibility for their care unless reassured of their ability to do so. The medical profession considers all of the surgical procedures surveyed to be "band-aide" surgery with only minimal possibility of complications. This perceptual gap can only be overcome by reassurance by physicians and medical staff aware of these patient concerns and a program that is responsive to the educational and emotional needs of the patient.

Responses of Patients Willing to Try Ambulatory Surgery

The responses to this question were strongly influenced by the number of patients that were children. Most parents did not desire for their child to remain in the hospital overnight unnecessarily. The other major responses were the dislike of a hospital stay and the comfort of ones own home over the hospital. The overall responses of these patients were that hospitalization for their surgical procedure was not really necessary and convalescence at home was preferable. It is interesting to note that the

Table 17
Responses of Patients Unwilling
to Try Ambulatory Surgery

Reason Stated	Number
1. Family could not care for patient at home.	4
2. Children at home to care for.	13
I would not know how to care for myself or my child at home after surgery.	14
4. I need to more about ambulatory surgery before I try it.	9
5. I need a day to relax in bed after surgery and and I would be unable to do that at home	27
6. My unit would not look favorably on my being on quarters after ambulatory surgery.	3
7. Other reasons: Drowsy after surgery.	4

Table 18
Responses of Patients Willing to
Try Ambulatory Surgery

Responses	Number
1. Less time lost from work.	7
2. Less time away from my family.	45
3. I did not need to be in the hospital for the type surgery I had.	13
4. I would be more comfortable at home after this type surgery.	31
5. I could have taken care of myself as well as the hospital staff after the procedure I had.	10
6. I dislike hospitals and prefer to recuperate at my own home.	14

economic consideration of decreased loss of time from work is a minimal concern

for military health care beneficiaries.

Additional Descriptive Data

Some additional data was received in the additional comments volunteered by the patients on the survey. The parents of small children having these procedures were very concerned about an overnight stay for their child since the pediatric ward is constrained for space and allows only the parents of seriously ill children to remain overnight. Another comment seen on many surveys was the difficulty of getting admitted, securing laboratory and radiologic studies, and then waiting long periods of time for a interview with a member of the Anesthesiology Service.

Utilization of the Demand Analysis Data

The information received in the demand analysis will be used to recommend a preliminary marketing plan. This plan cannot be comprehensive since the scope of the demand analysis was limited. The data does give some strong clues to the desires and concerns of the community and the need to market this service to the patient consumers.

FOOTNOTES

¹Brown, Burnell, Outpatient Anesthesia, USA: A. Davis Co., 1978, pp. 6.

²Berkowitz, Eric N., "Marketing Ambulatory Care Centers: Planning Considerations and Demand Analysis", The Journal of Ambulatory Care Management, August 1981, pp. 24.

³Ibid

⁴Pitts, Robert E., "Taking Stock of Your Institution". Health Services Manager, Vol. 13, March 1980, pp. 6.

III. CONCLUSION

GENERAL

The findings of the demand analysis demonstrate the gap between the patient's and professional's perceptions regarding ambulatory surgery. A preliminary marketing plan will be presented as a means of meeting the consumer needs and desires found in the demand analysis. The plan presented will be based upon the four elements of marketing: product, place, price and promotion. This plan should not be viewed as a cookbook plan but as the overall goals to strive for in the organization of the ambulatory surgical service.

Product

In the hospital, the product is in reality a service. MacStravic uses the exchange relationship to define the product as the service the patient gets for what he gives.¹ Another way to express this relationship is in terms of the benefits offered to both groups of consumers. The health care professional is looking for an ambulatory surgical service that is of the same quality as inpatient surgery. He also wants the benefits of more productivity with less paperwork for minor surgical procedures. The other medical personnel want workload smoothing which will enable them to plan care more efficiently for the inpatient surgical units.

The patient consumer is requesting a service that is efficiently delivered by friendly, concerned professionals who treat him with dignity and respect. The patient wants the benefit of ready access by reduction of

the waiting time for minor surgery and less time away from his family in the hospital.

Place

The place component refers to the location where the product is delivered. In health care, the place component is also concerned with access to care.² A primary benefit of the ambulatory surgery program is the increased access to surgical treatment. Since DACH is the primary health care delivery site for 170,000 beneficiaries, place is less of a consideration than in the civilian sector. However some aspects mentioned such as parking lots and convenient arrangement of the hospital for the patient are a major factor at DACH. The construction phasing have made movements within the hospital longer and extremely confusing. The DACH ambulatory surgical center does have excellent accessibility since it has its own outside entrance, a dedicated receptionist and a separate waiting area.

Price

Many authors discount the economic factor of cost in health care because of the third party payer systems in health care. The aspect of loss of time from the work was only a minimal concern in the Patient Survey. Instead the price is often in time or other intangible factors. Cooper defines the price component as involving, "all the benefits he (the patient) perceives versus all the costs he perceives than merely the obvious service itself and its price tag in money".³ Keith gives the definition of market price in blunt terms. He calls market price as "The charge made for

services as well as everything the organization requires the patient to go through in order to utilize the service."⁴ Keith's definition utilizing the organizational requirements was a frequent theme in comments received on the patient survey. Hawthorne emphasized that Ambulatory Surgical Center patients must have these organizational requirements reduced to the minimum or the patient will not perceive the benefits of ambulatory surgery over inpatient surgery.⁵

This concept holds true in both the civilian and military health sectors. The efficiency of the program can be enhanced by keeping as many of the admission, preoperative preparations and discharge functions within a self contained unit. The patient will usually feel the service is more personal even though the ambulatory surgical delivery encounter is of short duration.

Promotion

Market promotion covers a whole spectrum of public relation and health education activities. The first aspect of this market component begins with the physicians' one-to-one conversation with the patient. The patient's fears and concerns revealed in the demand analysis should be communicated to the surgeons via continuing medical education activities. Additional studies should be done on other diagnoses and on a larger sample size to verify this study and reveal additional information. The physician and other health care professionals can utilize this information in educating and reassuring the patient. After initiation of the program, both consuming groups should be surveyed to ascertain patient and physician satisfaction and elicit ways to improve the services of the ambulatory surgical center.

Prior to the initiation of the ambulatory surgical center, the services offered should be promoted extensively through the local media. It would be advantageous to get the responses of satisfied patients into the media after the program has been in effect for continued promotion. The media promotion should not only serve the purpose of informing the public about the service (advertising) but also the criteria the hospital uses in selection of patients, the organization of the unit and the advantages of this service (health education).

Conclusion and Recommendations

This marketing plan is necessarily brief however the overall findings of the research question demonstrate several problems which DACH should address. The recommendations are:

1. The hospital should conduct a market audit of the patient publics and all health care providers to assess the health care needs of the Fort Hood Community.
2. Darnall Army Community Hospital should utilize a marketing orientation to develop all new services prior to their initiation.
3. The presented ambulatory surgical center marketing plan should be utilized as a guide to the development of the ambulatory surgical program.

FOOTNOTES

¹MacStravic, Robin E., Marketing Health Care, Germantown, MD: Aspen Systems Corp., 1977 pp. 27.

²Keith, Jon G., "Marketing Health Care: What the Recent Literature is Telling Us", Hospital and Health Services Administrator, Vol. 26, Special II 1981, pp. 72.

³Cooper, P. D., Ed., Health Care Marketing: Issues and Trends, Germantown, MD: Aspen Systems Corp., 1979 pp. 130

⁴Ibid, Keith

⁵Hawthorne, Douglas D., "Presbyterian Hospital of Dallas: an Ambulatory Surgery Program", Journal of Ambulatory Care Management, August 1981, pp. 59

APPENDIX A: PHYSICIANS AMBULATORY SURGERY QUESTIONNAIRE

PHYSICIANS AMBULATORY SURGERY QUESTIONNAIRE

I. General Data

A. Surgical Service _____

B. What is your level of training/experience (check one):

1. _____ Senior Staff

2. _____ Junior Staff

3. _____ Resident

4. _____ Intern

C. How familiar are you with the basic concept of Ambulatory Surgery?
(check one)

1. _____ Very Familiar

2. _____ Familiar

3. _____ Unfamiliar

II. Specific questions regarding Ambulatory Surgery Center

A. How many cases do you do in DACH's operating rooms that you feel could be done just as well in an ambulatory surgical center (check one).

1. _____ 1 case per week

2. _____ 2-5 cases per week

3. _____ 5-10 cases per week

4. _____ Greater than 10 cases per week

5. _____ None

B. How many surgical cases do you feel you have backlogged that could be done in an Ambulatory Surgical Center? (check one)

1. _____ No back log

2. _____ 1-5 patients

3. _____ 5-10 patients

4. _____ Greater than 10 patients

C. If an Ambulatory Surgical Center were offered, to what extent would you utilize it? (check one)

1. ☐ 1 to 5 cases per week
2. ☐ 5 to 10 cases per week
3. ☐ Greater than 10 cases per week
4. ☐ Don't know
5. ☐ I would not use an Ambulatory Surgical Center

D. In your opinion, is an Ambulatory Surgical Center a priority need of Darnall Army Community Hospital? (check one)

1. ☐ High priority
2. ☐ Moderate priority
3. ☐ Low priority
4. ☐ Not needed

E. Additional comments:

(Signature - Optional)

APPENDIX B: PATIENT QUESTIONNAIRE



DEPARTMENT OF THE ARMY
UNITED STATES ARMY MEDICAL DEPARTMENT ACTIVITY
FORT HOOD, TEXAS 76544

REPLY TO
ATTENTION OF

AFZF-DHS-CO

26 February 1982

TO HOSPITAL PATIENTS

Dear Patient:

Darnall Army Community Hospital is constantly striving to improve it's service to the Fort Hood area. Your family was selected as a participant in this survey because of the recent surgery one of you had at Darnall. We are requesting the individual who had surgery or an adult family member take a few minutes to fill out this brief survey and return in the self-addressed envelope inclosed. Your answers will help us to evaluate our services and the need for new medical services. If you have any questions regarding this survey, please contact Major Jack McNeil, Administrative Resident at 685-5311.

Sincerely,

William W. Burgin, Jr.
WILLIAM W. BURGIN, JR., M.D.
Colonel, Medical Corps
Commanding

PATIENT QUESTIONNAIRE

- I. Questions about the person filling out the survey: (Please check the correct statement.)






I am the person who had the operation at Darnall in 1981_____

I am the parent of a child who had an operation at Darnall in 1981_____

- II. Questions about the person who had an operation at Darnall.

Patient's Age: _____ Sex _____ Male _____ Female _____ Status of the patient: _____
 of the Patient: _____ Active duty _____
 Dependent of active duty _____
 Retired _____
 Dependent of retired _____

- III. The following question is to help evaluate patient care. Please put an "X" in the box that most accurately describes how you felt about your hospital stay.

	VERY SATISFIED 	SOMEWHAT SATISFIED 	JUST OKAY 	SOMEWHAT DISSATISFIED 	VERY UNSATISFIED 
How statisfied were you with:					
A. The doctor					
B. The nurses					
C. Other nursing staff					
D. Comfort of your room					
E. Your overall hospital stay					
F. Other areas (please fill in)					
G.					

IV. Please check the box which describes the operation you or your family member had.

Hernia Repair _____

Ear Surgery _____

Eye Surgery _____

Gynecological (female) Surgery _____

Urology (male) Surgery _____

I Don't Know _____

V. In many places around the country the type of surgery your family member had is being conducted on an ambulatory (outpatient) basis; that is, people have surgery in the morning and they go home at the end of the day. Please answer the following questions about ambulatory day surgery.

A. Do you think you or your family would like to try ambulatory day surgery for the type of operation one of you recently had?

Yes _____ No _____ Don't Know _____

B. If you answered "NO" to question A - Please mark the statement which best describes why you would not want ambulatory day surgery.

1. My family could not take care of me at home. _____
2. I have children I have to take care of. _____
3. I'd be afraid I wouldn't know how to care for myself at home. _____
4. I don't know enough about Ambulatory Surgery. _____
5. I feel like I need a day to relax in bed after Surgery and I would be unable to do that at home. _____
6. My unit would not look favorably on my being at home in quarters status after ambulatory day surgery. _____
7. Other reason (fill in other reasons you might have) _____

C. If you answered "YES" to question A - or in other words, you liked the idea of ambulatory surgery, check the feature you like best about this type of surgery.

1. Less time lost from work. _____
2. Less time away from family, _____
3. I do not really need to be in the hospital. _____
4. I would be more comfortable at home. _____
5. I can take care of myself just as well as hospital staff. _____
6. I do not like hospitals and prefer to go home. _____
7. Other _____

D. Have you previously heard of the idea of ambulatory day surgery?

Yes _____ No _____

E. If ambulatory surgery was offered by your physician, would you choose this service?

Yes _____ No _____ Don't Know _____

F. Any additional comments:

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